

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 2003-NM-92-AD; Amendment 39-13762; AD 2004-16-06]

RIN 2120-AA64

Airworthiness Directives; BAE Systems (Operations) Limited Model Avro 146-RJ Series Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment adopts a new airworthiness directive (AD), applicable to all BAE Systems (Operations) Limited Model Avro 146-RJ series airplanes, that requires replacing the existing digital flight guidance computer(s) (DFGC) with a new or modified DFGC(s). This action is necessary to prevent a premature flare from occurring on approach due to erroneous data being provided to the DFGC(s); and also to prevent uncertainty about autopilot engagement status, which could cause the pilot to apply unneeded force to the control column and possibly result in a runaway condition of the autotrim. Either condition could lead to reduced controllability of the airplane. This action is intended to address the identified unsafe conditions.

DATES: Effective September 14, 2004.

The incorporation by reference of a certain publication listed in the regulations is approved by the Director of the Federal Register as of September 14, 2004.

ADDRESSES: The service information referenced in this AD may be obtained from British Aerospace Regional Aircraft American Support, 13850 Mclearen Road, Herndon, Virginia 20171. This information may be examined at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call (202) 741-6030, or go to: http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.

FOR FURTHER INFORMATION CONTACT: Todd Thompson, Aerospace Engineer; International Branch, ANM-116, FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 227-1175; fax (425) 227-1149.

SUPPLEMENTARY INFORMATION: A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) to include an airworthiness directive (AD) that is applicable to all BAE Systems (Operations) Limited Model Avro 146-RJ series airplanes was published in the Federal

Register on March 24, 2004 (69 FR 13760). That action proposed to require replacing the existing digital flight guidance computer(s) (DFGC) with a new flight computer(s).

Comments

Interested persons have been afforded an opportunity to participate in the making of this amendment. Due consideration has been given to the comments received.

Request To Revise the Explanation of Unsafe Conditions and Results

Two commenters state that the unsafe condition and results specified in the AD are derived from an incorrect combination of two completely unrelated conditions. Both commenters state that the premature flare condition is due to erroneous radio altimeter data provided to the DFGCs being undetected. One of the commenters, the airplane manufacturer, states that inappropriate force that the pilot applied to the control stick resulted from the flightcrew's uncertainty as to whether the autopilot was engaged or not. The commenter requests that the Summary and Discussion sections of the proposed AD be rewritten to reflect that the two unsafe conditions are unrelated. The other commenter, the DFGC manufacturer, requests that the body of the proposed AD be rewritten to reflect that the two unsafe conditions are unrelated.

The FAA agrees that the premature flare condition and application of inappropriate force to the control stick are unrelated. Therefore, we have rewritten the statement of unsafe conditions in the Summary and body of the AD to reflect the commenters' statements. However, the Discussion section of the AD is not repeated in the final rule, so no change to the final rule is necessary in that regard.

Request To Revise Wording Describing the Action to Replace

One commenter, the DFGC manufacturer, requests that the wording of paragraph (a) of the proposed AD describing the replacement of the "existing * * * DFGC" with a "new DFGC(s) * * *" be revised to read "a modified DFGC." The commenter states that the unsafe conditions result from erroneous data from external sources being supplied to DFGCs that are in perfect working order. The commenter indicates that specifying replacement of an existing DFGC with a new DFGC implies that the DFGC was seriously flawed and required a major redesign. The commenter states that only minor software adjustments were necessary to enhance DFGC monitoring capabilities and no redesign was needed to address the unsafe conditions. Following the same reasoning, the commenter requests that the heading of paragraph (a) be changed from "Replacement" to "Modification."

We understand the commenter's position and agree that clarification is necessary. DFGCs returned to the manufacturer for upgrade, then returned to service certainly have been modified. However, we do not agree that the word "new" carries such negative impact, since any new DFGC produced by the manufacturer will also contain the upgrade. Therefore, the wording of the summary of the section and paragraph (a) of this AD has been changed to read "with a new or modified DFGC(s)."

We do not agree that the heading of paragraph (a) should be changed from "Replacement" to "Modification." Though the DFGC is being switched for an upgraded DFGC, and will itself be upgraded by the manufacturer for return to service, the DFGC is still being replaced with another DFGC, not modified by the operator. No change to the final rule is necessary in this regard.

Conclusion

After careful review of the available data, including the comments noted above, the FAA has determined that air safety and the public interest require the adoption of the rule with the changes

described previously. The FAA has determined that these changes will neither increase the economic burden on any operator nor increase the scope of the AD.

Cost Impact

The FAA estimates that 36 airplanes of U.S. registry will be affected by this AD, that it will take approximately 1 work hour per airplane to accomplish the required actions, and that the average labor rate is \$65 per work hour. Required parts will cost approximately \$4,250 per DFGC (some airplanes may have 2 DGFCs). Based on these figures, the cost impact of the AD on U.S. operators is estimated to be between \$4,315 and \$8,565 per airplane.

The cost impact figure discussed above is based on assumptions that no operator has yet accomplished any of the requirements of this AD action, and that no operator would accomplish those actions in the future if this AD were not adopted. The cost impact figures discussed in AD rulemaking actions represent only the time necessary to perform the specific actions actually required by the AD. These figures typically do not include incidental costs, such as the time required to gain access and close up, planning time, or time necessitated by other administrative actions.

Regulatory Impact

The regulations adopted herein will not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, it is determined that this final rule does not have federalism implications under Executive Order 13132.

For the reasons discussed above, I certify that this action (1) is not a "significant regulatory action" under Executive Order 12866; (2) is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and (3) will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act. A final evaluation has been prepared for this action and it is contained in the Rules Docket. A copy of it may be obtained from the Rules Docket at the location provided under the caption ADDRESSES.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

PART 39—AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. Section 39.13 is amended by adding the following new airworthiness directive:

AIRWORTHINESS DIRECTIVE



Aircraft Certification Service
Washington, DC

U.S. Department
of Transportation
**Federal Aviation
Administration**

We post ADs on the internet at "www.faa.gov"

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

2004-16-06 BAE Systems (Operations) Limited (Formerly British Aerospace Regional Aircraft): Amendment 39-13762. Docket 2003-NM-92-AD.

Applicability: All Model Avro 146-RJ series airplanes, certificated in any category.

Compliance: Required as indicated, unless accomplished previously.

To prevent a premature flare from occurring on approach due to erroneous data being provided to the DFGC(s); and also prevent uncertainty about autopilot engagement status, which could cause the pilot to apply unneeded force to the control column and possibly result in a runaway condition of the autotrim; either of which conditions could lead to reduced controllability of the airplane; accomplish the following:

Replacement

(a) Within 29 months after the effective date of this AD, replace the existing DFGC(s) with a new or modified DFGC(s), in accordance with the Accomplishment Instructions of BAE Systems (Operations) Limited Modification Service Bulletin SB.22-068-70628B, dated November 4, 2002.

Reporting Requirements

(b) Although the service bulletin referenced in paragraph (a) of this AD specifies to submit information to the manufacturer, this AD does not include such a requirement.

Alternative Methods of Compliance

(c) In accordance with 14 CFR 39.19, the Manager, International Branch, ANM-116, FAA, Transport Airplane Directorate, is authorized to approve alternative methods of compliance for this AD.

Incorporation by Reference

(d) The actions shall be done in accordance with BAE Systems (Operations) Limited Modification Service Bulletin SB.22-068-70628B, dated November 4, 2002. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from British Aerospace Regional Aircraft American Support, 13850 Mclearen Road, Herndon, Virginia 20171. Copies may be inspected at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call (202) 741-6030, or go to:

http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.

Note 1: The subject of this AD is addressed in British airworthiness directive 001-11-2002.

Effective Date

(e) This amendment becomes effective on September 14, 2004.

Issued in Renton, Washington, on July 27, 2004.

Kyle L. Olsen,

Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.

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